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Technology Center 2600

AMENDMENT TO THE CLAIMS

Sub 5 1. (Previously Amended) In a system for encoding a frame of video image data with at least first and second encoding passes of said video image data, where the second encoding pass on said frame of video data is performed after the first encoding pass is performed on said frame of video data and each encoding pass includes a number of executable steps and at least one of said executable steps includes a number of executable first order sub-steps, a method for encoding video image data comprising:

(a) identifying first order sub-steps in at least one of said first and second encoding passes as being necessary or unnecessary for execution of said encoding passes;

(b) executing said necessary sub-steps during said first and second encoding passes;

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and

(c) excluding at least one sub-step from execution during an encoding pass for which that sub-step is unnecessary.

2. (Original) The method of claim 1 wherein in said identifying step, all of said first order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

3. (Currently Amended) The method of claim 1 wherein at least one of said first order sub-steps includes a plurality of executable second order sub-steps, wherein after step (a), said method further comprising:

(a<sub>2</sub>) identifying second order sub-steps in at least one of said first and second encoding passes as being necessary or unnecessary for execution of said encoding passes.

4. (Previously Amended) The method of claim 3 wherein in [step] (a<sub>2</sub>), all of said second order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

5. (Previously Amended) The method of claim 3 wherein at least one of said executable first order sub-steps includes a plurality of n-1 order sub-steps and at least one of said n-1 order sub-steps includes a plurality of executable n order sub-steps where n is an integer greater than or equal to three, wherein after [step] (a<sub>2</sub>), said method further comprising:

(a<sub>n</sub>) identifying n-1 order sub-steps in at least one of said first and second encoding passes as being necessary or unnecessary for execution of said encoding passes.

6. (Currently Amended) The method of claim 5 wherein in step (a<sub>n</sub>), all of said n order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

7. (Previously Amended) A set of instructions residing in a storage medium, said set of instructions capable of being executed by a processor to implement a method for encoding a frame of video image data with at least first and second encoding passes of said frame of video image data, where the second encoding pass on said frame of video data is performed after the first encoding pass is performed on said frame of video data and each encoding pass includes a number of executable steps and at least one of said executable steps includes a number of

executable first order sub-steps, such that first order sub-steps in at least one of said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes, the method comprising:

- (a) executing said necessary sub-steps during said first and second encoding passes;
- and
- (b) excluding at least one sub-step from execution during an encoding pass for which that sub-step is unnecessary.

8. (Original) The set of instructions of claim 7, wherein in while [said] identifying [step], all of said first order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

9. (Original) The set of instructions of claim 7, wherein at least one of said first order sub-steps includes a plurality of executable second order sub-steps, wherein second order sub-steps in at least one of said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

10. (Original) The set of instructions of claim 9, wherein all of said second order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

11. (Original) The set of instructions of claim 7, wherein at least one of said executable first order sub-steps includes a plurality of n-1 order sub-steps and at least one of said n-1 order

sub-steps includes a plurality of executable  $n$  order sub-steps where  $n$  is greater than or equal to three, wherein  $n-1$  order sub-steps in at least one of said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

12. (Original) The set of instructions of claim 11, wherein all of said  $n$  order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

13. (Previously Amended) A system for a frame of encoding video image data with at least first and second encoding passes of said frame of video image data, where the second encoding pass on said frame of video data is performed after the first encoding pass is performed on said frame of video data and each encoding pass includes a number of executable steps and at least one of said executable steps includes a number of executable first order sub-steps, said first order sub-steps in at least one of said first and second encoding passes being identified as necessary or unnecessary for execution of said encoding passes, said system including:

a video compressor adapted to encode video image data during said at least first and second encoding passes; and

a bit rate controller coupled to said video compressor and adapted to control said video compressor during said at least first and second encoding passes, such that said video compressor is adapted to execute said necessary sub-steps during said first and second encoding passes and exclude at least one sub-step from execution during an encoding pass for which that sub-step is unnecessary.

14. (Original) The system of claim 13 wherein said video compressor further comprises:  
an encoder/decoder adapted to encode video image data during said at least first and  
second encoding passes.

15. (Original) The system of claim 14 wherein all of said first order sub-steps in said first  
and second encoding passes are identified as being necessary or unnecessary.

16. (Original) The system of claim 15 wherein at least one of said first order sub-steps  
includes a plurality of executable second order sub-steps and said second order sub-steps are  
identified as necessary or unnecessary.

17. (Original) The system of claim 15 wherein all of said second order sub-steps in said  
first and second encoding passes are identified as being necessary or unnecessary.

18. (Original) The system of claim 16, wherein at least one of said executable first order  
sub-steps includes a plurality of  $n-1$  order sub-steps and at least one of said  $n-1$  order sub-steps  
includes a plurality of executable  $n$  order sub-steps where  $n$  is an integer greater than or equal to  
three, and  $n-1$  order sub-steps are identified in at least one of said first and second encoding  
passes as being necessary or unnecessary.

19. (Original) The system of claim 18 wherein all of said  $n$  order sub-steps in said first  
and second encoding passes are identified as being necessary or unnecessary.

20. (New) In a system for encoding a quantity of video image data with at least first and second encoding passes of said quantity of video image data, where the second encoding pass on said frame of video data is performed after the first encoding pass is performed on said quantity of video data and each encoding pass includes a number of executable steps and at least one of said executable steps includes a number of executable first order sub-steps, a method for encoding video image data comprising:

(d) identifying first order sub-steps in at least one of said first and second encoding passes as being necessary or unnecessary for execution of said encoding passes;

(e) executing said necessary sub-steps during said first and second encoding passes;

and

(f) excluding at least one sub-step from execution during an encoding pass for which that sub-step is unnecessary.

21. (New) The method of claim 20 wherein in said identifying step, all of said first order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

22. (New) The method of claim 20 wherein at least one of said first order sub-steps includes a plurality of executable second order sub-steps, wherein after (a), said method further comprising:

(a<sub>2</sub>) identifying second order sub-steps in at least one of said first and second encoding passes as being necessary or unnecessary for execution of said encoding passes.

23. (New) The method of claim 3 wherein in (a<sub>2</sub>), all of said second order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

24. (New) The method of claim 3 wherein at least one of said executable first order sub-steps includes a plurality of n-1 order sub-steps and at least one of said n-1 order sub-steps includes a plurality of executable n order sub-steps where n is an integer greater than or equal to three, wherein after (a<sub>2</sub>), said method further comprising:

(a<sub>n</sub>) identifying n-1 order sub-steps in at least one of said first and second encoding passes as being necessary or unnecessary for execution of said encoding passes.

25. (New) The method of claim 5 wherein in (a<sub>n</sub>), all of said n order sub-steps in said first and second encoding passes are identified as being necessary or unnecessary for execution of said encoding passes.

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